SIEMENS

Data sheet 3RT2015-1BG41



Power contactor, AC-3 7 A, 3 kW / 400 V 1 NO, 125 V DC 3-pole, Size S00 screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	5112
size of contactor	S00
product extension	
 function module for communication 	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
 at AC in hot operating state 	0.6 W
 at AC in hot operating state per pole 	0.2 W
 without load current share typical 	4 W
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	690 V
 of auxiliary circuit with degree of pollution 3 rated value 	690 V
surge voltage resistance	
 of main circuit rated value 	6 kV
 of auxiliary circuit rated value 	6 kV
maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC	6,7g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at DC	10,5g / 5 ms, 6,6g / 10 ms
mechanical service life (switching cycles)	
 of contactor typical 	30 000 000
 of the contactor with added electronically optimized auxiliary switch block typical 	5 000 000
 of the contactor with added auxiliary switch block typical 	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
 during operation 	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %
Main circuit	

number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
at AC-3 rated value maximum	690 V
at AC-3e rated value maximum	690 V
operational current	
at AC-1 at 400 V at ambient temperature 40 °C	18 A
rated value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C	18 A
rated value	46.4
 — up to 690 V at ambient temperature 60 °C rated value 	16 A
• at AC-3	
— at 400 V rated value	7 A
— at 500 V rated value	6 A
— at 690 V rated value	4.9 A
• at AC-3e	
— at 400 V rated value	7 A
— at 500 V rated value	6 A
— at 690 V rated value	4.9 A
 at AC-4 at 400 V rated value 	6.5 A
 at AC-5a up to 690 V rated value 	15.8 A
 at AC-5b up to 400 V rated value 	5.8 A
• at AC-6a	
 up to 230 V for current peak value n=20 rated value 	4 A
 up to 400 V for current peak value n=20 rated value 	4 A
 up to 500 V for current peak value n=20 rated value 	3.8 A
 up to 690 V for current peak value n=20 rated value 	3.6 A
• at AC-6a	
 up to 230 V for current peak value n=30 rated value 	2.7 A
— up to 400 V for current peak value n=30 rated value	2.7 A
— up to 500 V for current peak value n=30 rated value	2.5 A
— up to 690 V for current peak value n=30 rated value	2.4 A
minimum cross-section in main circuit at maximum AC-1 rated value	2.5 mm ²
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	2.6 A
at 690 V rated value	1.8 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	15 A
— at 110 V rated value	1.5 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.42 A
— at 600 V rated value	0.42 A
with 2 current paths in series at DC-1	
— at 24 V rated value	15 A
— at 110 V rated value	8.4 A
— at 220 V rated value	1.2 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.5 A
with 3 current paths in series at DC-1	
— at 24 V rated value	15 A
— at 110 V rated value	15 A
— at 220 V rated value	15 A
— at 440 V rated value	0.9 A

— at 600 V rated value	0.7 A
at 1 current path at DC-3 at DC-5	
— at 24 V rated value	15 A
with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	15 A
— at 110 V rated value	0.25 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	15 A
— at 110 V rated value	15 A
— at 220 V rated value	1.2 A
— at 440 V rated value	0.14 A
— at 600 V rated value	0.14 A
operating power	
 at AC-2 at 400 V rated value 	3 kW
• at AC-3	
— at 230 V rated value	1.5 kW
— at 400 V rated value	3 kW
— at 500 V rated value	3 kW
— at 690 V rated value	4 kW
• at AC-3e	
— at 230 V rated value	1.5 kW
— at 400 V rated value	3 kW
— at 500 V rated value	3 kW
— at 690 V rated value	4 kW
operating power for approx. 200000 operating cycles	
at AC-4	
 at 400 V rated value 	1.15 kW
 at 690 V rated value 	1.15 kW
operating apparent power at AC-6a	
 up to 230 V for current peak value n=20 rated value 	1.5 kVA
 up to 400 V for current peak value n=20 rated value 	2.7 kVA
 up to 500 V for current peak value n=20 rated value 	3.3 kVA
 up to 690 V for current peak value n=20 rated value 	4.3 kVA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	1 kVA
 up to 400 V for current peak value n=30 rated value 	1.8 kVA
 up to 500 V for current peak value n=30 rated value 	2.2 kVA
 up to 690 V for current peak value n=30 rated value 	2.9 kVA
short-time withstand current in cold operating state	
up to 40 °C	
 limited to 1 s switching at zero current maximum 	120 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	86 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	67 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	52 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	43 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at DC	10 000 1/h
operating frequency	
at AC-1 maximum	1 000 1/h
at AC-2 maximum	750 1/h
 at AC-3 maximum 	750 1/h
 at AC-3e maximum 	750 1/h
• at AC-4 maximum	250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC	
• rated value	125 V
operating range factor control supply voltage rated	
value of magnet coil at DC	
• initial value	0.8
• full-scale value	1.1
closing power of magnet coil at DC	4 W
holding power of magnet coil at DC	4 W
closing delay	
•	

• at DC	30 100 ms
opening delay	7. 40
• at DC	7 13 ms
arcing time	10 15 ms Standard A1 - A2
control version of the switch operating mechanism	Standard AT - AZ
Auxiliary circuit	1
number of NO contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
at 230 V rated value	10 A
at 400 V rated value	3 A
at 500 V rated value	2 A
at 690 V rated value	1 A
operational current at DC-12	
 at 24 V rated value 	10 A
 at 48 V rated value 	6 A
 at 60 V rated value 	6 A
at 110 V rated value	3 A
• at 125 V rated value	2 A
• at 220 V rated value	1 A
• at 600 V rated value	0.15 A
operational current at DC-13	
at 24 V rated value	10 A
 at 48 V rated value 	2 A
at 60 V rated value	2 A
• at 110 V rated value	1 A
at 125 V rated value	0.9 A
at 220 V rated value	0.3 A
at 600 V rated value	0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	4.8 A
at 600 V rated value	6.1 A
yielded mechanical performance [hp]	
for single-phase AC motor at 110/120 V reted value.	0.25 hp
— at 110/120 V rated value — at 230 V rated value	0.25 hp 0.75 hp
for 3-phase AC motor	0.75 Hp
— at 200/208 V rated value	1.5 hp
— at 220/230 V rated value	2 hp
— at 460/480 V rated value	3 hp
— at 575/600 V rated value	5 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the fuse link	
for short-circuit protection of the main circuit	
with type of coordination 1 required	gG: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)
with type of coordination is required with type of assignment 2 required	gG: 20A (690V,100kA), aM: 20A (690V,100kA), BS88: 20A (415V,
man type of designment 2 required	80kA)
 for short-circuit protection of the auxiliary switch 	gG: 10 A (500 V, 1 kA)
required	
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted
	forward and backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail
a cido by cido mounting	according to DIN EN 60715
side-by-side mounting beight	Yes 58 mm
height width	58 mm 45 mm
wiatn depth	73 mm
required spacing	70 11111
with side-by-side mounting	
with side-by-side modifiing	

— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
 for grounded parts 	
— forwards	10 mm
— upwards	10 mm
— at the side	6 mm
— downwards	10 mm
 for live parts 	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	6 mm
Connections/ Terminals	
type of electrical connection	
for main current circuit	screw-type terminals
 for auxiliary and control circuit 	screw-type terminals
at contactor for auxiliary contacts	Screw-type terminals
of magnet coil	Screw-type terminals
type of connectable conductor cross-sections	
for main contacts	
— solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²
— solid or stranded	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²), 2x 4 mm²
 finely stranded with core end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
 at AWG cables for main contacts 	2x (20 16), 2x (18 14), 2x 12
connectable conductor cross-section for main contacts	
• solid	0.5 4 mm ²
stranded	0.5 4 mm²
 finely stranded with core end processing 	0.5 2.5 mm ²
connectable conductor cross-section for auxiliary contacts	
 solid or stranded 	0.5 4 mm²
 finely stranded with core end processing 	0.5 2.5 mm ²
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid or stranded	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²
 finely stranded with core end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
 at AWG cables for auxiliary contacts 	2x (20 16), 2x (18 14), 2x 12
AWG number as coded connectable conductor cross	
section	00 40
for main contactsfor auxiliary contacts	20 12 20 12
,	20 12
Safety related data	
product function	V
• mirror contact according to IEC 60947-4-1	Yes; with 3RH29
B10 value with high demand rate according to SN 31920	1 000 000
proportion of dangerous failures	40.0/
with low demand rate according to SN 31920 with high demand rate according to SN 31920	40 % 73 %
with high demand rate according to SN 31920 follows rate [EIT] with low demand rate according to SN	
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
T1 value for proof test interval or service life according to IEC 61508	20 y IP20
protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
suitability for use	ingor sais, for vertical contact from the front
safety-related switching OFF	Yes
Certificates/ approvals	
General Product Approval	





Confirmation







EMC

Functional Safety/Safety of Machinery

Declaration of Conformity

Test Certificates



Type Examination
Certificate





Special Test Certificate

Type Test Certificates/Test Report

Marine / Shipping













Marine / Shipping

other

Railway

Dangerous Good



Confirmation



Vibration and Shock

<u>Transport Information</u>

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2015-1BG41

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2015-1BG41

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1BG41

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

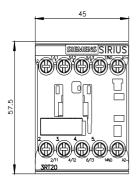
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2015-1BG41&lang=en

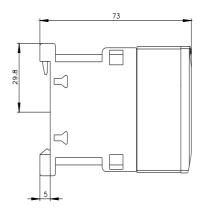
Characteristic: Tripping characteristics, I²t, Let-through current

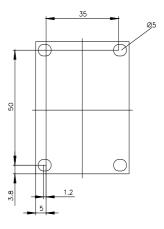
https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1BG41/char

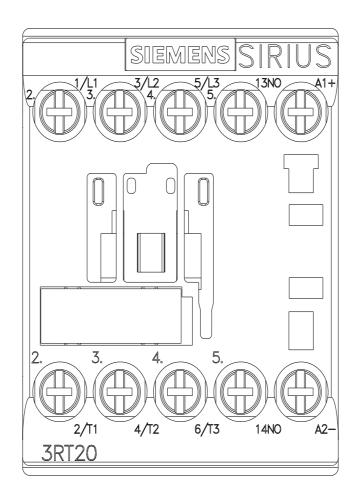
Further characteristics (e.g. electrical endurance, switching frequency)

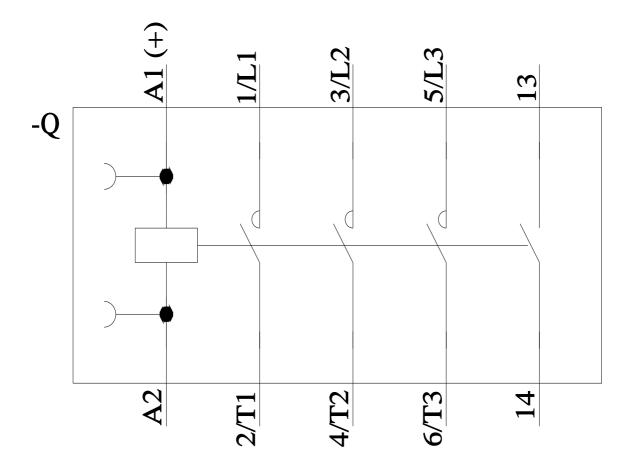
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2015-1BG41&objecttype=14&gridview=view1











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